

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: MATEU CLIMENT, Salvador

SERIAL NO.: 10/597,891

ART UNIT: 3635

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EXAMINER: Triggs, A. J.

TITLE: STRUCTURAL ARRANGEMENT WHICH ASSISTS RAPID FIRE LOAD
COMBUSTION AND SMOKE AND GAS EVACUATION

Amendment A: REMARKS

Upon entry of the present amendments, previous Claims 1 - 3 have been canceled and new Claims 4 and 5 substituted therefor. Reconsideration of the rejections, in light of the foregoing amendments and present remarks, is respectfully requested. The present amendments have been entered for the purpose of distinguishing the present invention from the prior art and for the purpose of placing the claim language into a more proper U.S. format.

In the Office Action, it was indicate that Claims 1 - 3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Smith patent.

As an overview to the present reply, Applicant has revised previous Claims 1 - 3 in the form of new Claims 4 and 5. New independent Claim 4 expresses the original limitations in of independent Claim 1, but expresses such limitations in a more proper U.S. format, including proper antecedent bases and proper structural interrelationships throughout. Any indefinite terminology found in the original claim language has been corrected herein.

In particular, independent Claim 4 now specifies that nature of the "floors" as the "first horizontal layer" and the "second horizontal layer". As such, the structure of the present invention, as applied to a building, is more specifically defined. Additionally, it is indicated that the second

horizontal layer has "a conduit extending therethrough". This conduit has an entrance that opens to the space wherein the combustible load is located. The conduit is extending upwardly so as to "have an exit communicating with said air chamber in a location above said second horizontal layer".

Additionally, it was indicated that the facade sheet has "an air channel having one end opening at an outer side of said outside facade sheet and an opposite end opening to said air chamber in a position below said exit of said conduit and above said horizontal layer". Applicant respectfully contends that these features serve to distinguish the present invention from the prior art Smith patent.

Applicant has introduced new dependent Claim 5 herein so as to recite that the entrance of the conduit has "a combustible material extending thereover". As such, dependent Claim 5 reflects the limitations that were recited in the original in paragraph [0112].

The importance of the present invention is to provide a safety device for use in buildings. Although it relies on certain principles associated with "chimneys" and "fireplaces", it is specially designed to the requirements of buildings wherein fires may occur. In particular, paragraph [0082] of the original specification states that:

The device for the rapid consumption of the combustible load found within reach of a fire, in addition to the smoke and hot gases produced by the fire, takes advantage of the air chamber to establish depressions that rapidly consume the combustible load found within reach of the fire, using the chimney effect of natural methods or conventional systems.

Additionally, paragraph [0088] of the original specification states the purpose of the present invention in that:

To sum up, the device described in this report is conceived in such a way that, by taking advantage of diffusion by convection along vertical surfaces, it can control a fire from the very first few minutes, without the need of human help, by resorting to the physical-chemical

properties of the elements that make up a fire, helped by determined natural or mechanical mechanisms, and put into action naturally or mechanically.

Specifically, the structure of the present invention that achieves these advantages was recited in paragraph [0096] as follows:

Figure 1 also shows the entrance to the conduct (6), shaped like a chimney (5) or depression chamber, an exit (7) with the central shaft or flue of the chimney (5), a point (8) or place where the fire begins, and a plume of smoke (9) or accumulation of smoke and hot gases that rises towards the ceiling, where the layer of smoke and hot gases (10) accumulates. It also shows the entrance of air (11) from the outside.

In order to achieve these advantages, it can be seen that there is a space defined by the lower horizontal layer and the upper horizontal layer. These would correspond to the floors of a building. The space therebetween can be a room that contains combustible material, such as furniture. The wall of this floor has an inside facade sheet that is spaced from an outside facade sheet. An air channel will extend vertically between these two sheets and between the floors. The air chamber will also extend through the second horizontal layer upwardly and outwardly therefrom. In order to achieve the desired effects, a conduit is provided in the second horizontal layer so as to have an opening which opens at the ceiling or at the bottom of the second horizontal layer. This chimney extends upwardly so as to have upper end communicating with the air chamber above the second horizontal layer. The air flow upwardly causes the use of the air channel which also opens above the second horizontal layer and communicates with the air chamber. The exit of the conduit is positioned above this air channel so as to allow a proper flow of the smoke outwardly of the space between the floors. Applicant respectfully contends that the prior art Smith patent does not show such a structure nor does it achieve the advantages of the present invention.

The Smith patent simply shows a prefabricated fireplace. In particular, this structure was described in column 2, lines 5 - 18, as follows:

According to the invention, a prefabricated fireplace comprises a firebox and flue enclosed by concrete cast as a unit. The firebox includes an inner fuel box where wooden logs or similar articles of fuel are burned, and an outer air circulation space, surrounding the inner fuel box, where room air is circulated to gain heat from the walls of the fuel box. Transparent doors are mounted to form one side of the fuel box where the fuel box extends to the surface of the cast concrete. The air tight doors open to provide access to the fuel box for addition of fuel from time to time and, when closed, prevent room air from entering the fuel box and smoke from entering the room while allowing the warmth and pleasing image of a fireplace fire to radiate into the room.

As such, from this paragraph, it is the purpose of the Smith patent to "prevent room air from entering the fuel box". Additionally, in column 2, lines 48 - 56, of the Smith patent, it is stated:

The bottom edges of the prefabricated fireplace has a number of metal angles cast in the concrete suitable for welding. A flat foundation of concrete is poured at the installation site, and flat strips of metal are secured to the flat horizontal surface of the foundation so as to surround the correct placement of the fireplace base. The bottom edge of the fireplace is then aligned with the base so that the metal band around the fireplace may be bead welded to the base strips.

As such, it can be seen that this prefabricated fireplace is specifically designed to be "installed" into a space of a building. It does not use the structure of the building itself to achieve the desired effects.

Relative to independent Claim 4, the Smith patent does not show the first and second horizontal layers. In particular, there is nothing in the Smith patent to show that there is a "conduit" extending through the second horizontal layer. The Smith patent does not show the conduit extending upwardly so as to have "an exit communicating with said air chamber in a location above said second horizontal layer". The Smith patent fails to show the outside facade sheet as having an air channel having one end "opening at an outer side of said outside facade sheet and an opposite end

opening to said air chamber in a position below said exit of said conduit and above said second horizontal layer".

Functionally, it is the purpose of the Smith patent to "prevent room air from entering the fuel box". In contrast, it is necessary in the present invention for the air to enter the "fuel box" in order to allow the combustible material in the space between the horizontal layers to properly exit this space. Since the present invention allows room air, and the associated smoke and hot gases, to be exited up through the floor of the building and outwardly of the building, the present invention utilizes this air flow to overcome the undesirable affects of the fire in the space between horizontal layers. Quite clearly, the Smith patent does not show a structure which achieves the advantages of the present invention. Since the structure of the present invention, the function of the present invention, and the advantages of the present invention are neither shown or suggested by the prior art Smith patent, Applicant respectfully contends that independent Claim 4 is patentably distinguishable from this prior art.

Applicant has added Claim 5 so as to emphasize that a combustible material can extend over the entrance of the conduit. As such, the conduit, and associated ventilation system of the present invention, is only operational when the heat combusts this material. Once again, this feature is neither shown nor suggested by the Smith patent.

Based upon the foregoing analysis, Applicant contends that independent Claim 4 is now in proper condition for allowance. Additionally, those claims which are dependent upon independent Claim 4 should also be in condition for allowance. Reconsideration of the rejections and allowance

of the claims at an early date is earnestly solicited. Since no new claims have been added above those originally paid for, no additional fee is required.

Respectfully submitted,

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